SOUTHERN CALIFORNIA

ASSOCIATION of GOVERNMENTS

Main Office

818 West Seventh Street

12th Floor

Los Angeles, California

90017-3435

t (213) 236-1800

f (213) 236-1825

www.scag.ca.gov

DRAFT TRANSPORTATION CONTROL MEASURE SUBSTITUTION REPORT AVAILABLE FOR PUBLIC REVIEW AND COMMENT

Comment period for the attached report commences on June 30, 2010 and concludes at 5 p.m. July 29, 2010.

Please send comments to:

Rongsheng Luo, Program Manager

By mail SCAG
818 W. Seventh St
Los Angeles, CA 90017
(213.236.1994)

or via email luo@scag.ca.gov

If you have any questions, please call Rongsheng Luo at (213) 236-1994.

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TRANSPORTATION CONTROL MEASURE SUBSTITUTION

State Route 60 HOV Lane Conversion (PM 13.1 to PM 21.1 in the City of Marengo Valley)

DRAFT REPORT

June 2010

INTRODUCTION

Transportation Control Measures (TCMs) are defined as strategies that adjust trip patterns or otherwise modify vehicle use in ways that reduce air pollutant emissions. As applicable, TCMs are included in the most recently approved Air Quality Management Plan (AQMP)/State Implementation plan (SIP) as part of the overall control strategy to demonstrate a region's ability to come into attainment with the National Ambient Air Quality Standards (NAAQS). In the SCAG region, only two ozone nonattainment areas include TCMs in their AQMPs/SIPs: South Coast Air Basin and Ventura County portion of the South Central Coast Air Basin. TCM-type projects in these nonattainment areas are considered committed once they have funds programmed for right-of-way or construction in the first two years of an approved SCAG Federal Transportation Improvement Program (FTIP). When a committed TCM project cannot be delivered or will be significantly delayed, the substitution of the TCM project follows the process specified in the Clean Air Act (CAA) Section 176(c)(8).

Caltrans has requested conversion of an eight-mile segment of State Route 60 (SR-60) High Occupancy Vehicles (HOV) lane, a TCM project in the South Coast Ozone SIP, from full-time restricted-access to part-time continuous-access operation (see Appendix A). As documented herein, the proposed TCM substitution is consistent with federal and state requirements, including the SAFETEA-LU planning requirements and the U.S. Environmental Protection Agency's (EPA) Transportation Conformity Rule.

TCM SUBSTITUTION PROCESS

The substitution process set forth in SAFETEA-LU and the Transportation Conformity Rule is included in the 2007 AQMP for the South Coast Air Basin and described in SCAG's 2011 FTIP Guidelines.

The County Transportation Commissions (CTCs) and/or project sponsors notify SCAG when a TCM project cannot be delivered or will be significantly delayed. SCAG and the CTCs then identify and evaluate possible replacement measures for individual substitutions with consultation of the TCWG, which includes members from all affected jurisdictions, federal, state and/or local air quality agencies and transportation agencies.

Substitution of individual TCMs is provided for by the CAA Section 176(c)(8), under the following conditions:

> "(i) if the substitute measures achieve equivalent or greater emissions reductions than the control measure to be replaced, as demonstrated with an emissions impact analysis that is consistent with the current methodology used for evaluating the replaced control measure in the implementation plan;
> "(ii) if the substitute control measures are implemented-
>
> > "(I) in accordance with a schedule that is consistent with the schedule provided for control measures in the implementation plan; or
> >
> > "(II) if the implementation plan date for implementation of the control measure to be replaced has passed, as soon as practicable after the implementation plan date but not

later than the date on which emission reductions are necessary to achieve the purpose of the implementation plan;

"(iii) if the substitute and additional control measures are accompanied with evidence of adequate personnel and funding and authority under State or local law to implement, monitor, and enforce the control measures;

"(iv) if the substitute and additional control measures were developed through a collaborative process that included--

"(I) participation by representatives of all affected jurisdictions (including local air pollution control agencies, the State air pollution control agency, and State and local transportation agencies);

"(II) consultation with the Administrator; and

"(III) reasonable public notice and opportunity for comment; and

"(v) if the metropolitan planning organization, State air pollution control agency, and the Administrator concur with the equivalency of the substitute or additional control measures."

In addition to the conditions above, the 2007 South Coast AQMP states that the substitute project shall be in the same air basin and preferably be located in the same geographic area and preferably serve the same demographic subpopulation as the TCM being replaced.

A TCM substitution does not require a new conformity determination or a formal SIP revision. SCAG adoption of the new TCM with concurrence of the U.S. EPA and California Air Resources Board (ARB) will rescind the original TCM and the substitution becomes effective.

PROJECT DESCRIPTION

Caltrans is proposing to convert both directions of the existing full-time restricted-access HOV lane to part-time continuous-access operation on an eight-mile segment of SR-60 (Post Mile 13.1 to Post Mile 21.1) in the City of Moreno Valley. The proposed HOV lane in both directions would be HOV only from 6:00 AM through 10:00 AM and from 3:00 PM through 7:00 PM, Monday through Friday and would be open to single occupant vehicles (SOV) the rest of the hours. Signage will be installed to inform motorists of the new hours of operation.

COMPLIANCE WITH SUBSTIUTION REQUIREMENTS

Interagency Consultation. Interagency consultation on the proposed substitution occurred at SCAG's publicly noticed TCWG meeting on March 23, 2010 and June 22, 2010.

Equivalent Emissions Reduction. SCAG has analyzed the emissions impacts of the substitute project for the South Coast Air Basin (SCAB) using SCAG's Regional Travel Demand Model and ARB's EMFAC2007 Model. The analysis concludes that the replacement project provides equal or greater emission reductions (see Appendix B).

Similar Geographic Area. Both the original and the replacement TCM projects are located on exactly the SR-60 segment in the City of Marengo Valley within the South Coast Air Basin (SCAB).

Full Funding. Caltrans has secured the necessary funding for the SR-60 HOV lane conversion project.

Timely Implementation/Similar Time Frame. The proposed conversion of the operational full-time restricted-access HOV TCM to part-time continuous-access HOV TCM would not cause a delay to TCM timely implementation.

Legal Authority. Under the provisions of Section 149 of the California Streets and Highway Code, Caltrans has the legal authority to implement the SR-60 HOV Lane conversion project. In addition, FHWA has determined that the operation of the HOV lanes are the responsibility of Caltrans (see Appendix A).

Agency Review and Adoption. The TCM substitution request document will be released for a 30-day public review period. After the 30-day public review period, the substitution will be presented to SCAG's Energy and Environment Committee (EEC) for approval. Upon EEC's approval, the substitution will be presented to SCAG's Regional Council for adoption. The Regional Council's adoption will then be forwarded to US. EPA and ARB for concurrence. Concurrence from U.S. EPA and ARB will rescind the original TCM and the new measure will become effective.

Appendix A:

Caltrans District 8 TCM Substitution Request

DEPARTMENT OF TRANSPORTATION
OFFICE OF THE DISTRICT DIRECTOR
464 WEST FOURTH STREET, MS 1201
SAN BERNARDINO, CA 92401-1400
PHONE (909) 383-4055
FAX (909) 383-6239
TTY 711

Flex your power!
Be energy efficient!

June 10, 2010

Mr. Hasan Ikhrata
21.1Executive Director
Southern California Association of Governments
818 W. Seventh Street, 12th Floor
Los Angeles, CA 90017-3435

08- RIV-60 PM 13.1 to PM
08- 0H390K
Convert full-time HOV lane
to part-time operation

Dear Mr. Ikhrata:

The California Department of Transportation (Department) is proposing to convert both directions of existing full-time High Occupancy Vehicles (HOV) lane (restricted access), to part-time operation, on an eight mile segment of State Route 60 (SR-60), (RIV-60 PM 13.1 to PM 21.1), in the City of Moreno Valley. It is also proposed to convert the existing limited HOV lane, to continuous access.

The proposed segment would begin just east of the SR-60 and Interstate 215 junction and would continue to Redlands Boulevard. The HOV lane in both directions would be HOV only from 6:00 AM through 10:00 AM and from 3:00 PM through 7:00 PM, Monday through Friday and would be open to single occupant vehicles (SOV) the rest of the hours. Signage will be installed to inform motorists of the new hours of operation.

The SR-60 HOV lane is a Transportation Control Measure (TCM) project. Under the federal transportation conformity regulations, the SR-60 HOV lane conversion project will need to go through a TCM substitution process as prescribed by the Clean Air Act. Caltrans District 8 would like to proceed with the substitution process for the SR-60 HOV lane conversion project.

As part of the interagency consultation process, Caltrans District 8 (D8) made a presentation to the Transportation Conformity Working Group (TCWG) on March 23, 2010. Thereafter, D8 has been working with your modeling staff to quantify the emission benefits of the HOV lane conversion project. The analysis shows that the HOV conversion project offers equivalent air quality benefits. Under the provisions of Section 149 or the California Streets and Highway Code, D8 has the legal authority to implement the SR-60 HOV Lane conversion project. In addition, D8 has secured the necessary funding for the project. We expect the project to be completed by fall of 2010.

As the owner/operator of the State Highway System, the Federal Highway Administration (FHWA) has determined that the operation of the HOV lanes are the responsibility of the Department (see enclosed FHWA letter.)

We would greatly appreciate your assistance in preparing for and working through the substitution process with all stakeholders. If you have any questions, please feel free to call me at (909) 383-4055, or Thomas Ainsworth, Acting Deputy District Director, Operations at (909) 383-4535.

Sincerely,

for RAYMOND W. WOLFE, PhD
District Director

c: Thomas Ainsworth

Enclosure

U.S. Department of Transportation
Federal Highway Administration

Federal Highway Administration

650 Capitol Mall, Suite 4-100
Sacramento CA 95814
(916) 498-5001
(916) 498-5008 fax

February 8, 2010

In Reply Refer To:
HDA-CA

Mr. James Pinheiro, P.E.
Deputy District Director, Maintenance and Operations
California Department of Transportation, District 12
3347 Michelson Drive, Suite 380
Irvine, CA 92612

Dear Mr. Pinheiro:

I am writing to document that the Federal Highway Administration (FHWA) has received and reviewed the "SR-22 High Occupancy Vehicle Lane Demonstration Project Monitoring and Evaluation" report, dated December 2009, and received on January 19, 2010.

It is our understanding, based on conversations with Caltrans' staff, that Caltrans would like to use the above-referenced report as justification for converting a number of limited-access high occupant vehicle (HOV) facilities to continuous access. It should be noted that the operation of HOV lanes is the responsibility of Caltrans. As such, FHWA has an advisory role with regard to how Caltrans chooses to operate its HOV facilities.

Based on our review of the above-referenced report, FHWA offers the following observations:

1. Research conducted for Caltrans generally concludes continuous access facilities tend to have lower accident rates than limited access facilities. As a result, it would be expected that converting limited-access facilities to continuous access would result in fewer accidents at those facilities. It is recommended that Caltrans monitor accident data on the freeway segments where the conversion of HOV lane access will occur. The monitoring will provide data for a before and after comparison of those facilities.
2. Caltrans must ensure that changing the operation of an HOV facility from limited access to continuous access will be consistent with the safety and operations analyses conducted for the facility under the requirements of the National Environmental Policy Act (NEPA). If the revised access is found to be inconsistent with the assumptions and conclusions of the NEPA analyses conducted for the facility, the NEPA analyses may need to be revised and updated prior to converting the facility from limited access to continuous access.

Thank you for the opportunity to review the above-referenced report and provide comments. FHWA values its partnership role with Caltrans. If you have any questions regarding the above comments, please contact Steve Pyburn at (916) 498-5057 or Steve.Pyburn@dot.gov.

Sincerely,

For
Walter C. Waidelich, Jr
Division Administrator

Appendix B:

Emissions Analysis of the Proposed SR-60 HOV Lane Conversion

Emissions Analysis of the Proposed SR-60 HOV Lane Conversion

Analysis Methodology

The emissions analysis compares the emissions of Ozone and precursors from the existing full-time restricted-access HOV lane operation (the existing TCM) with those from the proposed part-time continuous-access HOV lane operation (the replacement TCM) on the same eight-mile segment of SR-60 in the City of Marengo Valley (PM 13.1 to PM 21.1). The emissions are calculated for the SCAB because the SR-60 segment is located within the air basin. The analysis utilizes SCAG's Regional Travel Demand Model and ARB's EMFAC2007 model. The following is a description of the analysis methodology.

Step 1: Estimate the daily vehicle miles traveled (VMT), vehicle trips and speed data for the SCAB in 2035 using the current version of SCAG's Regional Travel Demand Model, which has been used for emissions analysis for the 2008 Regional Transportation Plan. The SCAG's regional travel demand model is a trip-based model implemented on TransCAD software platform. The modeling methodology, parameters, and inputs have been updated to reflect the existing and proposed HOV lane operating conditions. The outputs of the model include travel information on both the existing and proposed HOV lane operations. Loaded link information, intrazonal travel speeds, and intrazonal volume were extracted for all modeled time periods for both the existing and proposed HOV lane operations.

For the existing HOV lane operation, the segment of Route SR-60 in Moreno Valley as specified by Caltrans District 8 was coded as a two mix-flow lanes and a full-time controlled access HOV lane on both directions. The HOV lane was converted into a single occupancy vehicle lane with continuous ingress/egress to reflect the proposed continuous access operating condition. In addition, the proposed HOV lane in both directions would be HOV only from 6:00 AM through 10:00 AM and from 3:00 PM through 7:00 PM, Monday through Friday and would be open to single occupant vehicles (SOV) the rest of the hours.

The stage run procedure was used to estimate daily highway vehicle flow on the SR-60 segment. The procedure makes it possible to capture changes between the existing TCM and the proposed replacement TCM even when the changes are small.

Step 2: Run EMFAC2007 Model to obtain 2035 emissions of all criteria pollutants with the output from SCAG's Regional Travel Demand Model in Step 1 as the input to the EMFAC2007 Model. Developed by ARB, EMFAC2007 is the latest emission inventory model that calculates emission inventories for all motor vehicles from passenger cars to heavy-duty trucks operating on highways, freeways and local roads in California. EMFACT2007 was utilized for emissions analysis for the 2008 Regional Transportation Plan. EMFAC2007 outputs emissions for all criteria pollutants including reactive organic gases (ROG) and nitrogen oxide (NOx) by air basin.

Summary of Findings

Table 1 on the next page compares the average daily ROG and NOx emissions between the existing full-time restricted-access HOV lane operation with the proposed part-time continuous-access HOV lane operation for the SCAB in 2035. The result indicates that the replacement TCM yields equivalent (ROG) or greater (NOx) Ozone emission reduction benefits in the SCAB than the existing TCM.

Table 1: Comparison of 2035 Ozone Emissions
between the Existing TCM and Replacement TCM in SCAB
(tons per day)

Pollutant	Existing Full-Time Restricted-Access HOV Lane Operation	Proposed Part-Time Continuous-Access HOV Lane Operation
ROG	75.8	75.8
NOx	111.8	111.7

The detailed EMFAC2007 Model outputs for both the existing and proposed TCMs are listed in Table 2 and Table 3 respectively.

Table 2: EMFAC2007 Output for the Existing TCM
(2035 Daily Average – SCAB; Emissions: tons per day)

Vehicle Class	L&MDV	HDV	Other	Total
Vehicle	12,856,382	534,640	221,826	13,612,848
Starts	406,863	33,462	4,182	444,507
VMT	77,333,573	13,873,985	456,897	91,664,455
ROG	64.2	10.9	0.7	75.8
CO	508.4	66.3	7.3	582.0
NOx	29.1	73.9	8.7	111.8
PM10	18.8	3.9	0.4	23.1
PM2.5	12.2	2.7	0.3	15.2

Table 3: EMFAC2007 Output for the Replacement TCM
(2035 Daily Average – SCAB; Emissions: tons per day)

Vehicle Class	L&MDV	HDV	Other	Total
Vehicle	12,856,382	534,640	221,826	13,612,848
Starts	406,660	33,447	4,182	444,288
VMT	77,333,573	13,873,985	456,897	91,664,455
ROG	64.2	10.9	0.7	75.8
CO	508.1	66.3	7.3	581.7
NOx	29.1	73.9	8.7	111.7
PM10	18.8	3.9	0.4	23.1
PM2.5	12.2	2.7	0.3	15.2